Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-5. (Canceled)

6. (Currently Amended) A method for making a glass-ceramic, the method comprising heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 50 percent by weight Al_2O_3, based on the total weight of the glass, REO, ZrO_2, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, [[wherein the glass comprises ZrO_2,]] and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5.

7. (Canceled)

8. (Previously Presented) A method for making a glass-ceramic, the method comprising heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 40 percent by weight Al_2O_3, based on the total weight of the glass, REO, at least 20 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O.

9-10. (Canceled)

11. (Previously Presented) A method for making a glass-ceramic, the method comprising heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 50 percent by weight Al_2O_3, at least 30 percent by weight REO, and at least 10 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5.

12-34. (Canceled)

35. (Previously Presented) A method for making abrasive particles, the method comprising heat-treating glass particles to convert at least a portion of the glass to crystalline ceramic to provide glass-ceramic abrasive particles, the glass comprising at least 50 percent by weight Al_2O_3, based on the total weight of the glass, REO, ZrO_2, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5.

36. (Canceled)

37. (Previously Presented) A method for making abrasive particles, the method comprising heat-treating glass particles to convert at least a portion of the glass to crystalline ceramic to provide glass-ceramic abrasive particles, the glass comprising at least 35 percent by weight Al_2O_3, based on the total weight of the glass, REO, at least 20 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5.

38-39. (Canceled)

40. (Previously Presented) A method for making abrasive particles, the method comprising heat-treating glass particles to convert at least a portion of the glass to crystalline ceramic to provide glass-ceramic abrasive particles, the glass comprising at least 50 percent by weight Al_2O_3, at least 30 percent by weight REO, at least 10 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5.

41-61. (Canceled)

62. (Previously Presented) The method according to claim 6, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 1.5 as compared to the comparative glass-ceramic.

63. (Previously Presented) The method according to claim 6, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 2 as compared to the comparative glass-ceramic.

64. (Previously Presented) The method according to claim 6, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 3 as compared to the comparative glass-ceramic.

65. (Previously Presented) The method according to claim 6, wherein the REO is at least one of Gd_2O_3, La_2O_3, or Nd_2O_3.

66. (Currently Amended) A [[The]] method [[according to claim 6, further comprising]] of making abrasive particles, the method comprising:

heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 50 percent by weight Al_2O_3, based on the total weight of the glass, REO, ZrO_2, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5; and

crushing the glass-ceramic to provide the abrasive particles.

67. (Previously Presented) The method according to claim 66, further comprises grading the abrasive particles to provide a plurality of particles having a specified nominal grade.

68. (Currently Amended) A [[The]] method [[according to claim 6, further]] of making an abrasive article, the method comprising:

heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 50 percent by weight Al_2O_3, based on the

total weight of the glass, REO, ZrO_2, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5;

crushing the glass-ceramic to provide abrasive particles; and

incorporating the abrasive particles into an abrasive article.

69. (Previously Presented) The method according to claim 6, wherein the glass-ceramic has an average hardness of at least 15 GPa.

70. (Previously Presented) The method according to claim 6, wherein the glass-ceramic has an average hardness of at least 17 GPa.

71. (Previously Presented) The method according to claim 6, wherein the glass-ceramic has an average hardness of at least 18 GPa.

72. (Previously Presented) The method according to claim 6, wherein the glass-ceramic has an average hardness of at least 19 GPa.

73. (Previously Presented) The method according to claim 8, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 1.5 as compared to the comparative glass-ceramic.

74. (Previously Presented) The method according to claim 8, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 2 as compared to the comparative glass-ceramic.

75. (Previously Presented) The method according to claim 8, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 3 as compared to the comparative glass-ceramic.

76. (Currently Amended) A [[The]] method [[according to claim 8, further comprising]] of abrasive particles, the method comprising:

heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 40 percent by weight Al_2O_3, based on the total weight of the glass, REO, at least 20 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5; and

crushing the glass-ceramic to provide the abrasive particles.

77. (Previously Presented) The method according to claim 76, further comprises grading the abrasive particles to provide a plurality of particles having a specified nominal grade.

78. (Currently Amended) A [[The]] method [[according to claim 76 further comprises]] of making an abrasive article, the method comprising:

heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 40 percent by weight Al_2O_3, based on the total weight of the glass, REO, at least 20 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a

comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5;

crushing the glass-ceramic to provide the abrasive particles; and

incorporating the abrasive particles into an abrasive article.

79. (Previously Presented) The method according to claim 8, wherein the glass-ceramic has an average hardness of at least 15 GPa.

80. (Previously Presented) The method according to claim 8, wherein the glass-ceramic has an average hardness of at least 18 GPa.

81. (Previously Presented) The method according to claim 8, wherein the glass-ceramic has an average hardness of at least 19 GPa.

82. (Previously Presented) The method according to claim 11, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 1.5 as compared to the comparative glass-ceramic.

83. (Previously Presented) The method according to claim 11, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 2 as compared to the comparative glass-ceramic.

84. (Previously Presented) The method according to claim 11, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 3 as compared to the comparative glass-ceramic.

85. (Previously Presented) The method according to claim 11, wherein the REO is at least one of Gd_2O_3, La_2O_3, or Nd_2O_3.

86. (Currently Amended) A [[The]] method [[according to claim 11, further]] of making abrasive particles, the method comprising:

heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 50 percent by weight Al_2O_3, at least 30 percent by weight REO, and at least 10 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5; and

crushing the glass-ceramic to provide the abrasive particles.

87. (Previously Presented) The method according to claim 86, further comprises grading the abrasive particles to provide a plurality of particles having a specified nominal grade.

88. (Currently Amended) A [[The]] method [[according to claim 86 further comprises]] of making an abrasive article, the method comprising:

heat-treating glass to convert at least a portion of the glass to crystalline ceramic and provide glass-ceramic, the glass comprising at least 50 percent by weight Al_2O_3, at least 30 percent by weight REO, and at least 10 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5; and

crushing the glass-ceramic to provide abrasive particles; and

incorporating the abrasive particles into an abrasive article.

89. (Previously Presented) The method according to claim 11, wherein the glass-ceramic has an average hardness of at least 15 GPa.

90. (Previously Presented) The method according to claim 11, wherein the glass-ceramic has an average hardness of at least 18 GPa.

91. (Previously Presented) The method according to claim 11, wherein the glass-ceramic has an average hardness of at least 19 GPa.

92. (Previously Presented) The method according to claim 35, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 1.5 as compared to the comparative glass-ceramic.

93. (Previously Presented) The method according to claim 35, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 2 as compared to the comparative glass-ceramic.

94. (Previously Presented) The method according to claim 35, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 3 as compared to the comparative glass-ceramic.

95. (Previously Presented) The method according to claim 35, wherein the REO is at least one of Gd_2O_3, La_2O_3, or Nd_2O_3.

96. (Previously Presented) The method according to claim 35, further comprises grading the glass-ceramic abrasive particles to provide a plurality of particles having a specified nominal grade.

97. (Currently Amended) A [[The]] method [[according to claim 35 further comprises]] of making an abrasive article, the method comprising:

heat-treating glass particles to convert at least a portion of the glass to crystalline ceramic to provide glass-ceramic abrasive particles, the glass comprising at least 50 percent by weight

Al_2O_3, based on the total weight of the glass, REO, ZrO_2, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5; and

incorporating the glass-ceramic abrasive particles into an abrasive article.

98. (Previously Presented) The method according to claim 35, wherein the glass-ceramic abrasive particles have an average hardness of at least 17 GPa.

99. (Previously Presented) The method according to claim 35, wherein the glass-ceramic abrasive particles have an average hardness of at least 18 GPa.

100. (Previously Presented) The method according to claim 35, wherein the glass-ceramic abrasive particles have an average hardness of at least 19 GPa.

101. (Previously Presented) The method according to claim 37, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 1.5 as compared to the comparative glass-ceramic.

102. (Previously Presented) The method according to claim 37, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 2 as compared to the comparative glass-ceramic.

103. (Previously Presented) The method according to claim 37, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 3 as compared to the comparative glass-ceramic.

104. (Previously Presented) The method according to claim 37, wherein the REO is at least one of Gd_2O_3, La_2O_3, or Nd_2O_3.

105. (Previously Presented) The method according to claim 104, further comprises grading the glass-ceramic abrasive particles to provide a plurality of particles having a specified nominal grade.

106. (Currently Amended) A [[The]] method [[according to claim 104 further comprises]] of making an abrasive article, the method comprising:

heat-treating glass particles to convert at least a portion of the glass to crystalline ceramic to provide glass-ceramic abrasive particles, the glass comprising at least 35 percent by weight Al_2O_3, based on the total weight of the glass, REO, at least 20 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5; and

incorporating the glass-ceramic abrasive particles into an abrasive article.

107. (Previously Presented) The method according to claim 37, wherein the glass-ceramic abrasive particles have an average hardness of at least 18 GPa.

108. (Previously Presented) The method according to claim 37, wherein the glass-ceramic abrasive particles have an average hardness of at least 19 GPa.

109. (Previously Presented) The method according to claim 40, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 1.5 as compared to the comparative glass-ceramic.

110. (Previously Presented) The method according to claim 40, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 2 as compared to the comparative glass-ceramic.

111. (Previously Presented) The method according to claim 40, wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass by at least a factor of 3 as compared to the comparative glass-ceramic.

112. (Previously Presented) The method according to claim 40, wherein the REO is at least one of Gd_2O_3, La_2O_3, or Nd_2O_3.

113. (Previously Presented) The method according to claim 40, further comprises grading the glass-ceramic abrasive particles to provide a plurality of particles having a specified nominal grade.

114. (Currently Amended) A [[The]] method [[according to claim 40 further comprises]] of making an abrasive article, the method comprising:

heat-treating glass particles to convert at least a portion of the glass to crystalline ceramic to provide glass-ceramic abrasive particles, the glass comprising at least 50 percent by weight Al_2O_3, at least 30 percent by weight REO, at least 10 percent by weight ZrO_2, based on the total weight of the glass, and at least one of Nb_2O_5 or Ta_2O_5, wherein the glass contains not more than 10 percent by weight collectively As_2O_3, B_2O_3, GeO_2, P_2O_5, SiO_2, TeO_2, and V_2O_5, based on the total weight of the glass, and wherein the at least one of Nb_2O_5 or Ta_2O_5 is present in an amount sufficient to increase the rate of crystalline ZrO_2 formation from the glass as compared to a comparative glass-ceramic made by heat-treating, in the same manner, the same glass free of Nb_2O_5 and Ta_2O_5; and

incorporating the glass-ceramic abrasive particles into an abrasive article.

115. (Previously Presented) The method according to claim 40, wherein the glass-ceramic abrasive particles have an average hardness of at least 18 GPa.

116. (Previously Presented) The method according to claim 40, wherein the glass-ceramic abrasive particles have an average hardness of at least 19 GPa.